UNIVERSITY OF JOHANNESBURG

Department of Commercial Accounting

Cost and Financial Management 3B

CFM33B3 / CFM3BB3

FINAL ASSESSMENT OPPORTUNITY

Date: November 2015

Time: 180 minutes **Marks: 100**

Assessors: M van Rensburg, M Mouton, L Joubert and E Ghyoot

Moderator: M Vermaak (Internal)

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INSTRUCTIONS:

- This paper consists of 12 pages (including the cover page and appendix).
- Answer all questions. Show all calculations and workings clearly.
- **Draw a line under each question.**
- Silent, non-programmable calculators may be used.
- Where applicable, round all calculations to two decimal places, unless stipulated otherwise.
- **Clearly indicate the group that you attend as well as the class list number (next to your name on the attendance register) next to the UJ logo on your script.**

Question	Topic	Marks	Time
1	CVP analysis	20	36 minutes
2	Optimisation / Limiting factors	15	27 minutes
3	Investment appraisal	30	54 minutes
4	Special order	11	20 minutes
5	Multiple choice	15	27 minutes
6	Payback Period & ARR	9	16 minutes
		100	**180 minutes**

QUESTION 1	**(20 marks)**

Mrs Royal inherited a business from her father. The business manufactures tea cups and saucers as well as coffee mugs and has been in the family for more than 200 years. It still produces from the country of Waleland. The goods are mainly sold within the borders of Waleland. A tea cup and saucer (tea set) is sold as one product and a coffee mug as another product. The main ingredient of both products is porcelain. Products are manufactured using moulds and being shaped according to strict specifications. Quality is very important for Mrs Royal and the reputation of the business is the main reason why it has been in existence for more than 200 years. The porcelain is currently sourced from Waleland at R85 per kilogram. However, a new supplier from another country (Pakdia) has offered to supply the porcelain to Mrs Royal at R80 per kilogram.

The sales demand and production specifications are indicated below:

	Tea Set	**Coffee Mugs**
Sales demand (units)	1 500	2 000
Production (units)	1 500	2 000
Porcelain per unit (grams)	400	300
Labour hours per unit	1.2	0.75
Selling price per unit	R160.00	R125.00

Labourers are paid R35 per hour. Variable manufacturing overheads are allocated at R15 per labour hour. The business incurred R160 000 in fixed manufacturing overheads, of which the allocation is based on number of units produced, for the said period. The fixed manufacturing overhead allocation is based on normal production capacity of 2 000 tea sets and 2 500 coffee mugs.

Required:

1.1 Calculate the break-even point in units if the above sales mix is maintained. (Clearly indicate the number of units to be sold to break-even for tea sets and coffee mugs.) Assume Mrs Royal continues to use the current supplier from Waleland. **(11)**

1.2 Calculate the number of units of tea sets and coffee mugs that have to be sold in order for the business to make a profit of R100 000, after tax of 28%. Assume Mrs Royal uses the new supplier from Pakdia and retains the current sales mix. **(9)**

QUESTION 2 (15 marks)

OptiMom Ltd manufactures three different lifestyle products, mainly marketed to working moms. The following information is available:

	Planner	Organiser	Scheduler
Monthly sales demand (units)	1 000	1 000	2 000
Selling price per unit	R200	R150	R200
Variable costs	R126	R80	R132
Variable Overheads	R40	R40	R80
Labour (R40 per hour)	R80	R32	R48
Material (R4 per kg)	R6	R8	R4
Contribution	R74	R70	R68

Due to industrial action, the company is currently experiencing a shortage of skilled staff and labour hours are limited to 2 500 hours per month. It is expected that this industrial action will not last long, and the company will be able to resume normal operations within a few months.

At the same time, due to the current weak R/$ exchange rate, the company expects supplies of raw materials to be limited to 6 000 kg per month for the medium term future. Only one type of raw material is used to produce all the company's products.

The company has a contractual obligation to deliver 100 units of the Planner to an important retail customer each month. This contract cannot be cancelled in the short-term. These units are included in the sales demand figures shown in the table above.

Required:

2.1 Calculate the optimal mix of products that will maximise profits in the short- to medium term. Clearly indicate any limiting factor(s). **(15)**

QUESTION 3 (30 marks)

StaySecure Ltd, a manufacturer of patented security systems, is considering renting a facility in Durban, where they would produce a new line of security systems solely for export to the Indian market, starting in 2016. StaySecure has no experience in the export industry, and therefore they contracted Market Research Associates in 2014, at a cost of R199 000, who provided the following information:

- Since the company would be entering a new territory, advertising costs of R500 000 will have to be incurred in 2016, and will double in 2017. After that, Market Research Associates expects word of mouth to be sufficient, and no further above the line marketing should be necessary.

- If the security systems were to be priced at the foreign currency equivalent of R800 each, demand is expected to be as follows:

2016	1 500 units
2017	4 000 units
2018	4 500 units

  After 2018, the new security system would be obsolete and no further sales are expected.

- The intellectual property relating to the new system should be protected, and therefore a new patent should be applied for at a cost of R120 000. The patent will be amortised at 33.3% per year, in line with SARS practice, and will have no residual value.

- A technical team will be required in India, to manage installations and after sales support. This is expected to cost R400 000 per year. This team will not be required after 2018.

- Variable manufacturing costs would be R200 per unit.

- Other fixed costs, including the rental of the facility and amortisation of the patent, are budgeted to be R150 000 per year.

- Investment in working capital will increase by R200 000, which is expected to be recovered in full at the end of the project.

Assume a tax rate of 28%. Tax is paid in the year following the year of assessment and SARS allows assessed losses to be carried over.

Assume that all cash flows occur at the end of the year, except the investment in working capital and patent application, which will occur at the beginning of the year.

You may ignore the effects of inflation. The company has an after-tax cost of capital of 8%.

Required:

3.1 Write a report to the management of StaySecure Ltd on whether they should invest in this project. Your report should include a calculation of the NPV of the project and mention at least 3 other factors to be considered.
(You may use either the attached tables or a financial calculator. In both cases, all the cash in- and outflows must be clearly indicated before using the tables or the financial calculator.) **(30)**

QUESTION 4 (11 marks)

The Department of Commercial Accounting at UJ has approached MacDuncan (Pty) Ltd, a small fast food company operating from Maponya Mall, to assist with catering for the department's year-end function.

The Department requires a once-off order of 20 party packs, each containing a hot dog and a doughnut, packed to resemble a number 10, symbolic of UJ's 10th birthday. This will require special packaging, which MacDuncan (Pty) Ltd will order at R5 per box.

The hot dogs and doughnuts need to be fresh, so MacDuncan (Pty) Ltd would need to make them on the day of the function. Their production capacity is limited to 20 hours per day. The regular sales units are also produced freshly every day.

The following information is available:

	Doughnuts	**Hot Dogs**
Normal demand per day (excluding the special order)	50	150
Time per unit (minutes)	3	6
Normal selling price per unit	R5.00	R10.00
Prime cost per unit	R2.00	R3.00
Variable manufacturing overhead per unit	R0.25	R0.50
Allocated fixed manufacturing overhead per unit	R1.00	R2.00
Commission expense per unit sold (10% of selling price)	R0.50	R1.00

MacDuncan (Pty) Ltd has has agreed not to charge commission on the special order sales.

Required:

4.1 Advise MacDuncan (Pty) Ltd on whether they have sufficient production capacity to accept the Department's order. **(3)**

4.2 Calculate the minimum price per party pack that MacDuncan (Pty) Ltd can accept on the special order. Assume MacDuncan (Pty) Ltd has decided that if there is not enough capacity available, they would sacrifice normal sales of Doughnuts to make space for the special order. **(8)**

QUESTION 5	**(15 marks)**

Write the ***correct letter*** next to the number for the following questions. **Show all calculations** where applicable.

5.1 Projects that, if accepted, rule out the acceptance of competing projects are **(1)**
- a. Priority projects
- b. Mutually exclusive projects
- c. Independent projects
- d. Equity projects

5.2 Why would a company use the accounting rate of return? **(1)**
- a. To ensure that a potential investment that will adversely affect accounting income is not accepted.
- b. Because it takes time value of money into account.
- c. Because it is a measure of liquidity.
- d. All of the above

5.3 Which item is not an example of a sunk cost? **(1)**
- a. Material that needs to be purchased for use in for production in one month's time.
- b. The purchase cost of machinery bought last year.
- c. Depreciation
- d. None of the above

5.4 Which of the following best describes relevant costs? **(1)**
- a. Present cost with similar decision alternatives
- b. Present cost that differ between competing decision alternatives
- c. Past costs that correspond solely on competing decision alternatives
- d. Future cost that differ between competing decision alternatives

5.5 Which of the following alternatives would not be considered in cost-volume-profit analysis? **(1)**
- a. Units of production
- b. Fixed costs
- c. Product mix
- d. Gross profit margin

5.6 A decrease in the sales price of a basic cost-volume-profit model would **(1)**
- a. Require a re-computation of the gross profit per unit.
- b. Be offset by an increase in unit costs.
- c. Decrease the break-even volume.
- d. Increase the break-even volume.

5.7 In managerial decisions, relevant information involves (i)… costs and income that are payable or receivable in cash and that (ii)… between alternatives. The following words complete the sentence correctly: **(1)**

a. (i) Future; (ii) do not differ
b. (i) Future, (ii) are different
c. (i) Past, (ii) do not differ
d. (i) Past, (ii) are different

5.8 If you can work for a year and make R50 000; but you decide to rather go to university, then the R50 000 is a/an ….. **(1)**

a. Sunk cost
b. Outlay cost
c. Opportunity cost
d. Misplaced cost

5.9 Gold Company's variable expenses are 60% of sales. At a R400 000 sales level, the degree of operating leverage is 5. Therefore, the profit figure is **(2)**

a. R32 000
b. R48 000
c. R800 000
d. Not determinable from the information provided.

The following information is required for question 5.10:

Balser Limited manufactures and sells multiple products. Results of the previous year for the manufacture and sale of product JYMP are as follows:

Sales (8 000 units)	R960 000
Less: Costs	
Variable production costs	R464 000
Sales commission (15% of sales)	R144 000
Salary of product line manager	R100 000
Fixed product line advertising	R160 000
Fixed manufacturing overhead	R132 000
Total costs	R1 000 000
Net operating loss	(R40 000)

Balser anticipates no change in the operating results for JYMP in the foreseeable future. Balser is therefore re-examining all of its product lines and is trying to decide whether or not to discontinue the manufacture and sale of JYMP's. If the decision is made to discontinue JYMP, the product line manager post will be made redundant at no extra cost. Fixed manufacturing overhead costs of the company as a whole would not be affected by a decision to drop any single product line.

5.10 If the company discontinues the JYMP product line, the change in annual operating income of the company will be: **(5)**

a. R40 000 increase
b. R132 000 decrease
c. R92 000 decrease
d. R192 000 decrease

Please turn over for Question 6.

QUESTION 6	(9 marks)

Platinum Reef City is an amusement park in the Rustenburg area. The company is planning on constructing a new ride to be called the Cheetah, which the park management feels would be very popular. The ride would cost R600 000 to construct and it would have a 10% salvage value at the end of its 15 year useful life.

It is estimated that the following annual costs and revenues would be associated with this new thrilling ride:

Ticket Revenues	R250 000
Operating Expenses:	
Maintenance	R64 000
Salaries	R82 500
Depreciation	?
Insurance	R36 000

Required:

6.1 Assume that Platinum Reef City will not construct the new ride unless the ride promises a payback period of six years or less. Does the Cheetah ride satisfy this criterion? **(4)**

6.2 Compute the Accounting Rate of Return (ARR) on the equipment and comment if the Cheetah ride would be constructed if the company requires an ARR of at least 20%? **(3)**

6.3 Briefly discuss an advantage and a disadvantage of the Payback Period Method. **(2)**

Total paper mark = 100